Greenbank Electronics

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DATA SHEET

'Greenbank' RRM-14

14K ROM/RAM-2516/2114

BUS ISBUS (8-BIT DATA) + (16-BIT ADD.)

A1	(NI/O REQ)	B1	(NI/OD)
A2	NMREQ *	B2	(NMD)
A3	NWDS *	B3	(NEMREQ)
A4	NRDS *	B4	( )
A5	AB15 *	B5	( )
A6	AB14 *	B6	( )
A7	AB13 *	B7	( )
A8	AB12 *	B8	( )
A9	AB11 *	B9	( )
A10	AB10 *	B10	( )
A11	AB9 *	B11	
A12	AB8 *	B12	
A13	AB7 *	B13	(AB23)
A14	AB6 *	B14	(AB22)
A15	AB5 *	B15	(AB21)
A16	AB4 *	B16	(AB20)
A17	AB3 *	B17	(AB19)
A18	AB2 *	B18	(AB18)
A19	AB1 *	B19	(AB17)
A20	AB0 *	B20	(AB16)
A21	(NRST)	B21	( )
A22	DB7 *	B22	(DB15)
A23	DB6 *	B23	(DB14)
A24	DB5 *	B24	(DB13)
A25	DB4 *	B25	(DB12)
A26	DB3 *	B26	(DB11)
A27	DB2 *	B27	(DB10)
A28	DB1 *	B28	(DB9)
A29	DB0 *	B29	(DB8)
A30	(NENIN)	B30	(N2IN)
A31	(NENOUT)	B31	(N2OUT)
A32	(NRFSH)	B32	(N3IN)
A33	(RCLK)	B33	(N3OUT)
A34	(NWAIT)	B34	( )
A35	(+12V)	B35	(+12V)
A36	(+12V)	B36	(+12V)
A37, B37	POLARISATION SLOT		
A38	(-12V)	B38	(-12V)
A39	(-12V)	B39	(-12V)
A40	0V, E	B40	0V, E
A41	0V, E	B41	0V, E
A42	+5V	B42	+5V
A43	+5V	B43	+5V

'*' MEANS SIGNAL IS BUFFERED

POWER CONSUMPTION OF TYPICAL BOARD

+12V, -12V NOT USED

TYPE OF 2114	STD.	LOW P.
+5V	A	A
0V	A	A

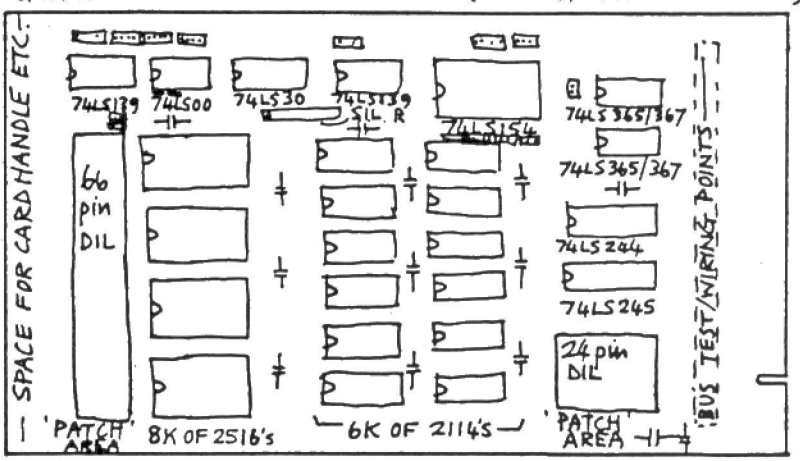
CONDITIONS: ALL 25 INTEGRATED CIRCUITS FITTED.

FEATURES 5V ONLY BOARD, FOR A 64K ADDRESS SPACE, BUT CAN BE USED IN A SYSTEM EXPANDABLE TO 16M. THE MEMORY IS ORGANISED IN 4K PAGES (2 ROM, 1 RAM) WHICH CAN BE ANY OF THE 16 AVAILABLE, WITHOUT RESTRICTION. A 'SPARE' 2K OF RAM IS AVAILABLE WHICH CAN BE MIXED WITH ONE OF THE ROM PAGES, MAKING 2K ROM 'SPARE'. WHEN SPARE 2K IS USED BUFFERS ARE ENABLED FOR THE 2K ONLY NOT THE WHOLE 4K.

PRICE P.C.B EX. VAT ETC.

£17-75

GENERAL VIEW OF BOARD (APPROX HALF SCALE)



CIRCUIT DESCRIPTION A 74LS154 PROVIDES THE 16 4K-PAGE SELECTS. 1K AND/OR 2K SELECTS FOR THE 2516'S AND 2114'S ARE PROVIDED BY 74LS1395. BUFFERING (ONE WAY) IS BY 74LS365 (OR 367) AND 74LS244. BUFFERING (TWO WAY) BY 74LS245 (OR 74C245). ADDRESS SELECTION AND CONTROL OF THE BUFFERS IS CARRIED OUT BY 74LS00 AND 74LS30 GATES, CARE BEING TAKEN NOT TO ENABLE THE BUFFERS FOR A WHOLE 4K PAGE WHEN THE 'SPARE' 2K IS BEING USED. THE MAIN OPTIONS ARE SELECTED BY WIRE LINKS, SO AS TO AVOID EXTENSIVE TRACK-CUTTING. ALTHOUGH INTENDED PRIMARILY FOR 8-BIT DATA (DB0 - DB7), THE BOARD CAN BE USED IN CONJUNCTION WITH ANOTHER RRM-14 IN 16-BIT DATA APPLICATIONS. TRACKS WILL THEN HAVE TO BE CUT ON ONE OF THE BOARDS TO REPLACE DB0-DB7 BY DB8-DB15. THERE ARE TWO 'PATCH' AREAS WHICH CAN BE USED FOR SEVERAL PURPOSES EG. TO DRIVE OR RECEIVE THE B2 'MEMORY DISABLE' LINE, TO DRIVE A34 NWAIT TO ASK A FAST CPU TO WAIT, OR TO DECODE B3 NEMREQ AND AB16-23 IN AN EXTENDED 16-MEGABYTE SYSTEM, OR EVEN FOR AN ON-BOARD CPU!

'ISBUS' COMPATIBILITY THE BOARD IS DESIGNED TO THE 'LESSER' ISBUS STANDARDS (I.E 8-BIT DATA, 16-BIT ADDRESS). HOWEVER IT CAN BE ALTERED SO THAT IT IS USABLE IN A 16-BIT DATA BUS AND 24-BIT ADDRESS BUS, WITH OTHER CARDS IN A 16-MEGABYTE ADDRESS SPACE. SEE CIRCUIT DESC. ABOVE FOR DETAILS

BOARD DESCRIPTION EPOXY GLASS, 203 × 114 mm, TINNED, DRILLED, WITH DOUBLE SIDED 0·1" PITCH GOLD-PLATED EDGE PLUG AREA. TRACKS ON BOTH SIDES OF BOARD, THROUGH-PLATED HOLES. (WIRE LINKS ONLY USED FOR ADDRESS SELECTION ETC.) SOLDER MASK TO 'A' SIDE.

'PATCH' AREAS

1 24 pin DIL
1 66 pin DIL
(Both useable on 0.3" or 0.6" pitch)

DATA APPROX 20 PAGES

£1.00 No VAT

ADDITIONAL NOTES: THE PRICES TO THE RIGHT DO NOT INCLUDE THE MEMORIES - BLANK 2516/5V 2716's, AND 2114L's CAN BE SUPPLIED IF REQ'D. (ALL PRICES EXCLUDE VAT AND HANDLING).

PARTS COUNT

1 SIL RESISTOR PACK
1 CAPACITORS
9 INTEGRATED CIRCUITS
SET 0·1" PITCH PIN ASSEMBLIES + PRESTRIPPED WIRES
MAIN COMPONENTS, EXCLUDING MEMORIES. 9 new

PARTS PRICE

MAIN COMPONENTS (EX. PCB, MEMORIES, OPTIONS) £10·51 EX. VAT + HANDLING

SOCKETS PRICE

SET OF 25 IC SOCKETS £4·82 EX. VAT ETC., OR USE 500 'SOLDERCON' PINS @ 60p/100 EX VAT ETC.